

INSIGHTS INTO OUR SERVICE PORTFOLIO

[Individual

Remote controlled



STATIONARY







Stationary handling

- [V Project-related individual production
- [√] Task-related design
- Optimised energy consumption
- Continuous availability thanks to electric operation
- [√] Modular design
- [√] Different operating modes:
 - » directly from the large cabin
 - » remotely controlled
 - » assistant-controlled
 - » fully automated

SPECIAL CONSTRUCTION



Crane for flotsam

» Sorting carriage with integrated saw in the gripper



Telescopic loader

- » 2-fold telescopic, undercarriage on rails
- » Units installed in the undercarriage
- » Reach: 7m, lifting capacity: 3000 kg



Remote Control

- » Control stand behind glass works under ATEX requirements
- $^{\mathrm{w}}$ 8m arm system, anchored by means of foundation plate
- » Lifting capacity: 2000 kg



Slider in the kaolin bunker

- » Spatial mode of control, rail locking
- » Oil cooling via volume/convection
- » 17m arm system with scraper tool

RAIL-GUIDED





Handling concept

- Optimised transport routes
- Spatial separation between input, sorting and handling
- [√] Optimisation of usable area
- Additional storage or conveyor space between the rails
- No loader manoeuvring area (approx. 100m² per loader)
- [Material access / handling at any time
- Driver can concentrate on handling
- [√] No risk of collision when reversing on the rail
- [√] Rail track can be extended as required
- ✓ Travelling speed up to 190 m/min
- Additional units can be controlled from the large
- ✓ The operator can monitor the hall and the process
- One sorting carriage can replace several excavators

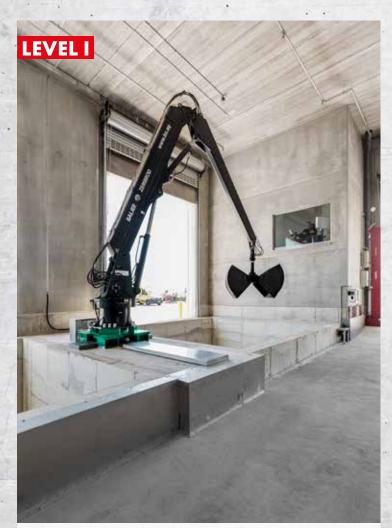








REMOTE



Remote control - with a view of the crane

- » Crane control from an external cabin with a direct view of the work process
- » Power unit outside the work zone
- » Operator protected from noise, air pollution and odours
- » Camera systems support crane operation



Long distance assistance system

- » Crane control from an external cabin without a direct view of the work process supported by camera systems
- » Partial automation guides the crane along predefined paths at the touch of a button
- » Manual material pick-up and delivery via the screen or the camera system

LEVEL III



Full automation

- » Crane controls itself according to specifications
- » External intervention, control or interruption possible at any time in the event of a malfunction
- » Certain requirements must be met for automatic operation.

 These are defined as part of the project. For example, material properties, safety measures, handling volume, etc.

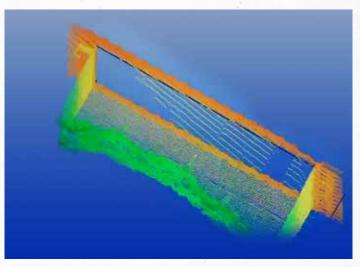


Illustration: A scanner is used to create a height profile and read out the data for automation

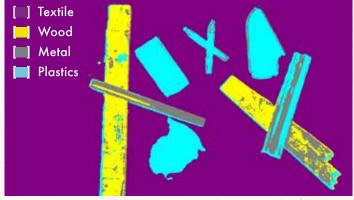


Illustration: Conceptual approach to material recognition using AI



